Columbia/Snake River TMDL Issues

Summary of Discussions at the June 27/28 Meeting

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The following table lists technical/policy/legal issues that have been expressed during our TMDL committee meetings. Also listed are discussion points about each issue leading to a straw-person way to address the issue. The discussion points are rather cryptic and will be flushed out in detail at the June meeting. The discussion points have not been fully vetted through EPA and are simply a straw-person first try, not an EPA position. At the June meeting, the technical discussion on the RBM-10 model will precede the specific discussions of these issues but we may find these issues coming up in the model discussion.

Issues

1. Model outputs versus WQS
2. Spatial variation in temperature
3. Target or compliance points

(AKA How will the WQS be applied?)

Discussion Points

- ~~Model output is daily or hourly cross sectional average temp.~~
- ~~WQS require daily max - don't specify where in the river but imply anywhere.~~
- ~~Temperature at a longitudinal point in the river can vary with width and depth. Warm places may exist even though the bulk of the flow is within standards.~~ These are just facts I was stating to set foundation for the following idea. They didn't need agreement by the meeting.
- Idea - (a) use max hourly ave as an approximation of daily max (most data is 1 sample per hour or 1 sample per day); (b) use cross-sectional average temp as the measure of river water temp. I heard agreement with both (a) and (b).
- So we express the numerical target as the hourly cross sectional ave temperature. I heard agreement with this as the "far-field" target. "Near field" targets will be set for point sources by the states and by EPA for sensitive places at the dams. However, there is confusion about the terminology. OR didn't really like "numerical target" or 'water quality standard" because of past comments from EPA. We were using the terms site potential and loading capacity. I think loading capacity is a misnomer and site potential while correct, doesn't denote the regulatory role of the target. I suggest that we eventually get around to calling it the numerical target.
- Compliance points: (a) at each heat source for establishing loads; (b) at tail race TDG stations at each dam for monitoring temperature versus WQS. There was general agreement on this. We are doing some more work on the tailrace data to determine how representative it is of the average temperature at the dam

Issue

4. Reconciling differences in WQS

Discussion Points

- Use the more stringent WQS.
- Determine more stringent by the number of violations of each.

I don't believe that we discussed this issue.

Issue

5. Setting numerical targets

Discussion Points

- Simulate temperature (natural) without the dams;
- Characterize natural temp versus time at each compliance point.
- Capture the long term difference between natural and existing temperatures as the numerical target.

Though this did not spawn a lot of discussion (surprising to me) I thought there was general agreement. There is still some uncertainty about the site potential or natural simulations because they do not include hyporheic flow We are not ignoring hyporheic flow and will discuss it in depth in the problem assessment and try to have it incorporated into solutions.

Issue

6. WLA for point sources

Discussion Points

- Use model to estimate impact of each point source on the maximum hourly cross sectional area.
- If it raises the maximum hourly cross sectional temp by less than state criteria, then give existing load.
- If it exceeds state criteria, adjust load.
- The permit process will need to address the plume.

This was modified. The model and the cross sectional temperature will be used to characterize the "far-field" effects and keep track of the cumulative effects of heat sources. The model will quantify the needed load reductions (if any) from point sources that alter the cross sectional temperature. The specific WLA for a point source will be any load reductions identified by the model and any reductions identified by the state as needed for the "near-field" effects. However, the accuracy of the site potential simulations is going to continue to be a sore spot from both sides of the table and we will continue to work to enhance these and account for the uncertainties.

Issue

7. LA for tributaries

Discussion Points

- Use existing LA if a TMDL has been developed. I heard agreement here. It will probably always be at site potential so there will not be an opportunity to ratchet it down further.
- Use the numerical criteria (or threshold value) to develop the LA unless water temperature at critical conditions exceeds the numerical criteria. The group felt that there would be none of these situations (but if by a miracle, there should be, I think there was agreement.)
- If temperature at critical conditions exceeds the numerical criteria, use the existing temperature to develop an initial LA. There was agreement here but also they pointed out

the need for language about the fact that a TMDL will be developed for the Trib and it will establish the final load for the Trib.

- The LA developed using any of these three methods may be adjusted downward if it is a significant contributor to non-attainment of WQS on the main stem. This was really only discussed in the context of the third situation above. They pointed out the need for a narrative description of the load allocation in the TMDL and language about the specific TMDL for the trib Taking precedence when it is completed.

Issue

WLA at the dams

Discussion points

This was not part of my original table of issues. I think there was agreement here that the WLA would be developed using the model's simulation of existing and site potential conditions. The load reduction necessary would be calculated from the difference between site potential and existing conditions. We would also specifically address the sensitive areas like fish ladders. We will still be working on the issue of shallow hot spots. The technical grp is going to do an empirical model and we will do some more work with the model.